DOCUMENT RESUME

ED 022 728 SP 001 600

INSERVICE EDUCATION OF TEACHERS; RESEARCH SUMMARY 1966-S1.
National Education Association, Washington, D.C. Research Div.
Report No-RS-1966-S1
Pub Date 66
Note-19p.
Available from-National Education Assn., 1201 16th St., N.W., Washington, D.C. 20036 ($0.60).
EDRS Price MF-$0.25 HC Not Available from EDRS.
Descriptors-EDUCATIONAL NEEDS, *EDUCATIONAL TRENDS, *INSERVICE TEACHER EDUCATION, PROGRAM DESIGN, PROGRAM DEVELOPMENT, PROGRAM EVALUATION, *RESEARCH PROJECTS, *REVIEW (REEXAMINATION), TRAINING TECHNIQUES

Half of this research survey consists of a descriptive discussion of inservice education. It limits itself to "those systematic programs designed to aid the classroom teacher" which are promoted by school systems, government agencies, professional associations, or colleges. The need for inservice education is discussed, and procedures for establishing such programs are outlined. Nineteen practices, such as workshops, field trips, and teacher exchanges, are listed and described; and common barriers to inservice programs are noted. Research summary sections on "Studies of Inservice Education Practices," "Evaluation," and "Improving Inservice Education" discuss and relate about 20 research studies, most of them published since 1960. General trends and practices are noted throughout. Tables present the results of 3 recent Research Division studies. A bibliography lists 54 items on all phases of inservice education, most of them published in journals since 1960. (JS)

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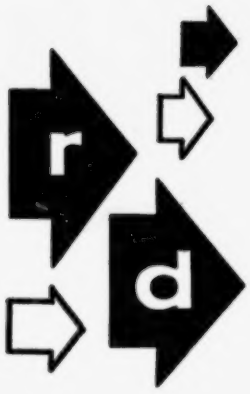

RESEARCH SUMMARY 1966-S1

Inservice Education of Teachers

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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In the fall of 1965, there were an estimated 1,699,330 elementary- and secondary-school teachers serving in the public schools of the United States.[1/] These teachers are faced with the challenge of preparing the children and youth of our nation to live in a kind of world impossible to predict, and to maintain high values during rapid cultural change. Research indicates that one of the most promising developments toward meeting this challenge is inservice education (24:330).[2/]

From its earliest beginnings, inservice education has been a topic of considerable interest with professional educators. Prior to 1953, however, most of the articles published on the subject are largely opinion and recommendation (21:4). The writing in this period centered itself on the forms and problems of inservice education. More recent studies illustrate the trend toward some kind of evaluation of inservice training.

The term inservice education is used by educators to denote efforts of administrative and supervisory officials to promote by appropriate means the professional growth and development of educational personnel.[3/] Although the broad concept of inservice education applies to all school personnel activities designed to increase professional competence, this summary is limited to systematic programs designed to aid the classroom teacher. Such programs may be promoted by local school systems; by county, city, state, or national governments; by professional associations and agencies; and by institutions of higher education.

Inservice education of teachers is not a panacea for all weaknesses in the instructional program. It does recognize, however, that the basic factor in improved instruction is the teacher and back of the improved curriculum is the human element. Professional growth activities for teachers are most effective when they include well-conceived purposes, carefully planned procedures, and evaluative techniques. Only when these components are present can inservice education work to serve the broad function of upgrading the teaching profession.

Need for Inservice Education

One mark of a profession is that its practitioners shall have a high level of preparation according to standards set by the profession itself. The NEA platform states:

> In every classroom a teacher with a broad general education, depth of preparation in special areas, mastery of the knowledge and skills necessary to be a competent teacher, and zeal for continued learning.
>
> . . . . . .
>
> A minimum of four years of college preparation, including supervised teaching, for initiation certification of beginning teachers; and a minimum of five years of college and three years of successful teaching experience for full professional certification.
>
> . . . . . .
>
> Encouragement--through professional and sabbatical leaves, scholarships, salary policies, and income tax deductions for

1/ National Education Association, Research Division. Estimates of School Statistics, 1965-66. Research Report 1965-R17. Washington, D.C.: Government Printing Office, December 1965. p. 28.

2/ The numbers in parentheses refer to items in the bibliography.

3/ Good, Carter V., editor. Dictionary of Education. Second edition. New York: McGraw-Hill Book Co., 1959. p. 288.

educational expenses--for teachers to maintain and improve professional competence.4/

In the fall of 1965, state departments of education reported 81,700 full-time teachers with less than standard certificates. The number of teachers with less than standard credentials was 30,100 in secondary schools, while the number in elementary schools was 51,600.5/ Although there is considerable variation in other requirements, most states require at least a bachelor's degree to obtain a regular teaching certificate. Because of the variation in requirements from state to state, the data on the number of teachers with substandard certificates have value in calling attention to the situation in individual states and in pointing out an area where inservice education of teachers could have special force.

An NEA Research Division study in 1955-566/ found that 34.1 percent of the elementary-school teachers and 3.0 percent of the secondary-school teachers had less than a bachelor's degree. In June 1965 the NEA Research Division estimated that 15.7 percent of the elementary-school teachers had less than four years of college.7/ The Division's annual national survey of classroom teachers in 1965 found that 13.9 percent of the men elementary-school teachers and 15.3 percent of the women had less than a bachelor's degree; the percent of secondary-school teachers without the bachelor's degree had dropped to 1.7 percent. It seems clear that one continuing purpose of inservice education is to eliminate deficiencies in the preparation of teachers.

The need for inservice education is further emphasized by the fact that in the United States there is an excess of 150,000 vacancies beyond the supply of 1965 college graduates. Transcending this disparity in gross number of teachers available are the need for a better division between those preparing for elementary- and those preparing for high-school teaching and the need for a better distribution among the high-school teaching fields of those preparing to serve at this level.8/ Thus, positions are often filled by teachers who do not hold regular certificates, are not licensed in the subject fields in which they are teaching, or have been out of the profession for years.

The new teacher, or the teacher undertaking a new type or level of work, may be helped by inservice education. Many school systems recognize that new teachers need to learn about the school system, the community, and the problems and routines of the school where they will work. The teacher beginning a new type or level of work is likely to need help in becoming acquainted with the resources of the school system for that field, practices that differ from those to which he was accustomed, or the new material with which he is expected to work. (34:13-14)

Inservice education can offer opportunity for "refresher" courses to those teachers who may have returned to the classroom after an absence of some years. The longer a teacher has been away from the classroom and the farther removed his experiences have kept him from educational work, the greater his need for help is likely to be. (34:13)

Another purpose of inservice education is to promote the continuous improvement of teaching and teachers; the teacher must always keep up with the advances in the theory and practice of teaching and in subject matter. The National Commission on Teacher Education and Professional Standards, NEA, states:

> The competent teacher is a growing teacher. The professionally-minded teacher seeks opportunities for continuous growth.
>
> Even with skillfully contrived and carefully administered pre-service programs in teacher education, changing demands, deepening understanding of the qualities of learn- and of teaching, and a constantly enlarging body of materials of instruction require each member of the profession to add continually to his knowledge, his skill, and his understanding.9/

Inservice education of teachers has always had as its goal not only basic curricular changes, but also changes in approaches to instruction and the total learning conditions of the school. Inservice education provides the opportunity for the exchange of ideas among

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4/ National Education Association. NEA Handbook, 1966-67. Washington, D.C.: the Association, 1966. p. 64.

5/ Schloss, Samuel. Fall 1965 Statistics of Public Elementary and Secondary Schools. U.S. Department of Health, Education, and Welfare, Office of Education. Washington, D.C.: Government Printing Office, 1966. p. 3.

6/ National Education Association, Research Division. "The Status of the American Public-School Teacher." Research Bulletin 35: 45; February 1957.

7/ National Education Association, Research Division. Teacher Supply and Demand in Public Schools, 1966. Research Report 1966-R16. 80 p.

8/ Ibid.

9/ National Education Association, National Commission on Teacher Education and Professional Standards. Statements of Policy. Washington, D.C.: the Commission, 1956. p. 12.

teaching staff, administration, and the community, which in the end coordinates efforts and means gains for all.

Doggett (17:118) has listed reasons for participation in an inservice education program as given by teachers:

1. Personal benefit, with indirect benefit to the school
   a. Obtaining higher teaching certificates
   b. Satisfying requirements for tenure
   c. Obtaining salary increases
2. Personal benefits that are related directly to school improvement
   a. General personal professional growth
   b. Greater understanding of the nature of the adolescent
   c. Developing course material
   d. Searching for improved types of instruction and better classroom devices
3. Group benefits that indirectly benefit the school
   a. The fulfilling of commitments by the school (as in preparation of Evaluative Criteria), fulfilling requirements for school accreditation, preparing public programs (Parents' Night, Open House, etc.)
   b. Engaging in inter-school curricular studies or statewide projects like Science Fairs
4. Group benefits with a sense of direct result in school improvement
   a. Efforts to fulfill the observed needs of the school
   b. Professional interest in some phase of the school program (curricular changes, grouping, activity programs, etc.)

Establishing an Inservice Program

The responsibility for inservice education is shared by all persons concerned with the improvement of education. The National Commission on Teacher Education and Professional Standards, put it this way:

> The responsibility for in-service education tion is mutual. School systems should make time, resources, and growth situations available; the professional teacher should contribute resources, time, effort, and enthusiasm.10/

The inservice program is often considered part of the total supervisory program concerned with training teachers, while they are on the job, to do their immediate jobs more effectively. While individual teachers must want to improve themselves and their teaching, the administrator must recognize the importance of inservice education and accept responsibility for its establishment.

Certain administrative arrangements must be made. All staff members may be given the opportunity to participate at certain points and to a certain degree in many arrangements. Final responsibility, however, rests with the school administrator and in some cases, with the board of education. In fact, Applegate (1) suggests that handbooks for local school systems should contain explicit statements defining all phases of teacher growth through inservice education.

Some elements important in a good inservice education program may be listed as follows:

1. Teachers should have an integral part in the planning and administration of the program.
2. There should be opportunities for promoting teacher improvement.
3. Curriculum planning is carried on cooperatively by teachers, administrators, and supervisors.
4. Research and experimentation by teachers and teacher groups are encouraged.
5. New teachers are well-oriented to their positions.
6. There is teacher-parent-community cooperation.
7. Salary practices are adequate and recognize training and experience.
8. Sufficient time is available to carry on group activities without injury to the teacher's health and morale.
9. The administration is fair and open-minded. Suggestions of teachers carry weight and are given careful consideration.

10/ Ibid.

10. All activities are carried on by administrators, supervisors, and teachers working as a team toward their fulfillment.

11. The atmosphere facilitates efforts to grow and change.

12. There are cooperative appraisal and evaluation of the goals of the school system and the means of achieving these goals.

In the school systems not having an organized program, the teacher as an individual has many opportunities for self-improvement, often within his own classroom.

There is no best program of inservice education. The approach in each school should fit the particular situation and emerge out of a shared problem-solving process (18). There is frequent re-examination of the goals of education for the particular school system and re-evaluation of the means of achieving the desired goals before steps are taken to make needed adjustments. For this process to be effective, all persons concerned must participate in it. Its success is to a large degree dependent upon the leadership of a trained administrative staff, yet its strength lies in the fact that creative ideas for the solution of any of the problems may come from any staff member or participating citizen.

Practices in Inservice Education

Inservice education includes a variety of activities. Academic study will continue to be important. There is, however, an increasing demand for more varied types of activities to serve the interests, needs, and abilities of every teacher.

The National Commission on Teacher Education and Professional Standards, NEA, suggests that inservice growth could be stimulated by means of the following:

a. Group study of actual school problems, under the guidance of able professional leaders and with competent consultants available. Activities of this character may involve teachers from a single school system or from several systems. It is recommended that some inservice growth projects bring together teachers from more than one school, from various departments, and from different grade levels.

b. Summer study programs, on- or off-campus, credit or non-credit. Projects sponsored by teacher education institutions will gain in helpfulness as faculty members become more familiar with the actual conditions of public education and so relate themselves to the improvement of teaching as to increase their effectiveness in promoting growth of teachers in the field.

c. Experience in the life of the community. The life of the community should be shared through the teacher's entering into its activities and participating in the processes of its development so that becoming a more successful teacher means becoming a more successful and responsible teacher-citizen. It is particularly important for the teacher to become familiar with all community agencies affecting the lives and growth of children.

d. Stimulation of the teacher to interpret to the community his own work, the objectives and the life--the problems, failures, and successes--of the school.

e. Purposeful school visitation. Visitation may occur within or without the home-school situation. Understanding leadership is indicated, and learning derived from promising practices observed should be applied to the solution of recognized problems.

f. Travel, both at home and abroad.

g. Participation in the activities of professional associations as a means of developing increased competence while improving the teacher's sense of professional responsibility.11/

The Dictionary of Innovations in Teacher Education (37), published by the National Commission on Teacher Education and Professional Standards, NEA, presents a compilation of many promising developments in teacher education. A large portion of this publication is devoted to innovations in inservice programs.

Lists of activities have been made by Doggett (17), Rogers (43), Schaaf (46), and the U.S. Office of Education (51). The California Teachers Association, in its survey of inservice education programs in California schools (11), listed 18 types of activities with precise definitions.

The National Commission on Teacher Education and Professional Standards conducted a survey of colleges and universities engaged in the preparation of teachers, state departments of education, and private and public school systems to discover practices of inservice education for teachers. Over 1,000 inquiries were

11/ Ibid., p. 12-13.

mailed. From the 397 responses, the Commission prepared a descriptive listing of more than 290 inservice programs (35).

Listed below are 19 descriptions of inservice techniques used in American public schools. This list, while by no means comprehensive, illustrates the many ideas which have been advocated by educators to raise professional standards. The length of this list, and those compiled by others (17, 43, 46, 51), emphasizes the great variety of choices possible.

Classes and Courses

Formal study is important for the teacher who wants to do graduate work, who enters the field with inadequate preparation, who wishes to cover a large body of material with the greatest economy of time, or who desires general professional improvement. Classes and courses are advantageous in that it is fairly easy to assign credit for work done.

Colleges and universities organize courses in several ways to help the individual who is employed during the day and cannot attend regular sessions.

a. Extension courses--In off-campus classes, the teacher may become a part-time student receiving instruction of regular university or college caliber. These courses are usually offered in the late afternoon, at night, or on Saturdays during the regular school year.

b. Summer school--The courses offered during summer vacation have substantially the same advantage as extension courses. The chief difference is that they usually represent full-time rather than part-time study.

c. Correspondence courses--Correspondence study is usually conducted by mail, the use of textbooks with lesson assignments, corrections, and examinations. The teacher may do the work at home at his own convenience.

Institutes

The institute is a series of lectures designed to give teachers as much information as possible in a short time, usually one, two, or three days. They were a substitute for college work at a time when many teachers found it difficult to attend college. As teachers acquired more training and their work became more specialized, a series of lectures for a large group was inappropriate. Hence the institute came to be reorganized. Lectures may be given, but often the teachers separate into groups to hear the lectures of special interest to them. Today, the teacher who attends an institute usually has the opportunity to discuss ideas as well as listen to them. An institute is often sponsored by the state, county, or school district.

Tremendous impetus for inservice education has been supplied by institutes in subject-matter fields. Support for both summer and year-round institutes in mathematics, science, languages, and guidance have been provided by the National Defense Education Act (NDEA), the National Science Foundation (NSF), and various foundations. The institutes greatly increase resources for inservice teachers.

The National Science Foundation Act of 1950 (PL 81-507) established the foundation to promote scientific research and education of future scientists. Congress amended the Act in 1952, 1953, 1958, and 1959, broadening the NSF's functions. Between 1952 and 1964, the NSF distributed more than $249,000,000 (47.5 percent of the total obligation) for scientific institutes.

Under authorization of Title VI of the National Defense Education Act of 1958 (PL 85-864), institutes for teachers of foreign languages have been designed to improve instruction. In fiscal 1959-1961, NDEA spent $9,594,016 Title VI funds for teacher training institutes.12/

Conferences

The term conference is applied to a wide variety of inservice education activities. The essential feature of a conference is that it gives the participant an opportunity to question others and discuss the ideas presented. A conference usually brings the group up to date on trends and problems in a specific field. Although the conference may vary in form, it should be planned according to the needs and talents of the group. Some take the form of workshops and others of work-conferences.

The work-conference places emphasis on individual participation in small-group activity. Each group concentrates on one aspect of a question before the conference. When each group has finished its work and evaluated both the work and the group procedures used, it reports to the entire conference so that all may benefit from the work of all groups.

Workshop

A workshop consists of a moderate-sized group, each member of which may have a problem

12/ Congressional Quarterly Service. Federal Role in Education. Washington, D.C.: the Service (1735 K St., N.W.), 1965. p. 7, 8, 9.

to solve. The teacher often comes with a problem area in mind, or he may develop his ideas as he works. The problems of each member should be in closely related fields. A skilled consultant works with the group. Through group discussions, conferences of the individual members with the consultant and with each other, and independent work each member defines and works toward the solution of his problem. At the end of the workshop, each teacher benefits from the reports of the other members on their work.

The activities of the members of a workshop may vary widely (32), but much of the success depends on the establishment of a free exchange of ideas among the members. For that reason an informal atmosphere is desirable (27). The workshop provides a cooperative approach to the solution of highly individualized problems.

Staff Meetings

Staff meetings may be no more than a means of acquainting teachers with administrative routines or changes in procedures, or of explaining and establishing some policy of the school. However, staff meetings may perform a useful inservice function. Staff committees may work on school problems and report progress at the meetings and invite discussion from other teachers. The staff may form a workshop and use the meetings to exchange ideas on their projects. Teachers may report on their reading and study or tell the others about their experiences, or the entire group may pursue a course of study in some field of common interest (30).

Committee Work

Committee work can be valuable both to the committee members and to the rest of the school staff. School problems that cannot be settled in the staff meeting because they require considerable study may be studied by a committee. The committee can use techniques that suit the problem, and a small group can develop a degree of mutual understanding that makes possible a very free exchange of ideas and close cooperation in the work undertaken.

Committees cannot usually include the entire teaching staff unless the work can be subdivided easily so that what exists is really a group of committees. It has been found that a committee functions best with no more than five or seven members. At times the work done by a committee is the equivalent of what is done in a college class, and in this case there should be a closer evaluation of the work than is often provided.

The danger of "busy work" must be recognized and avoided. Committee reports should be needed and used. Committee work should not be undertaken merely as an exercise in inservice education.

Professional Reading

It is difficult for the individual teacher to keep up with professional literature. Possible aids include the following:

1. A professional library in each school. Such a library might contain books and magazines which specialize in presenting summaries of the best current education work.

2. Study groups where each teacher reads and reports to others on his reading.

3. A bulletin prepared by teachers, with reviews of books and articles to help teachers select what they want to read and give them an idea of what the educational world is writing.

4. Provision for professional books and magazines in the teacher's room.

Such informal reading activities are valuable for professional improvement, but evaluating them presents difficulties.

Individual Conferences

Individual conferences between the teacher and the supervisor or principal are often considered an effective means of inservice education. Their success depends upon a feeling of friendship and mutual understanding, and informed and constructive ideas. A gread deal of success may come from conferences in which the discussion centers on the pupils and their problems and what to do for them.

Visits and Demonstrations

Visits and demonstrations have the same purpose. They give a teacher or a group of teachers the opportunity to see techniques of instruction or teaching materials in actual use. Their great advantage lies in their appeal to teachers, and therefore they may be a point of departure for other inservice education projects. Their great disadvantage is that they may present the idea that teaching is a bundle of tricks. To be successful, visits and demonstrations should be arranged in advance, and the teachers who are to observe should be fully informed. If possible, the visitors and the teacher who is to give the demonstration should meet both before and after the lesson to talk about the lesson and clear up any questions which remain. In this way it is possible to discuss the reasons for using the technique or materials observed.

Constructive help can be given to teachers by providing time during school hours for them to visit the classrooms of superior teachers. Such visits sometimes can be made in the teacher's own school; sometimes they should be made in other buildings or even in other school systems.

Some school systems provide model schools, staffed by expert teachers, where student teachers and teachers in service can observe approved classroom procedures. A less formalized procedure is scheduled demonstration lessons, taught by selected regular teachers in various schools for the special benefit of a particular group of teachers with related problems.

Field Trips

Teachers, like their pupils, sometimes need to bring their experience out of books and into the realm of personal experience (23). That is the purpose of field trips for teachers. Field trips are especially useful in the study of health, nature, and conservation, but they should also include visits to businesses, industries, government agencies, places of historical interest, and the like. The well-run field trip will be preceded and followed by a discussion period so that teachers may know what to look for and clear up any questions remaining after the trip is over. During the trip they will need the services of a guide or instructor who can explain what they are observing.

Travel

Some school systems accept domestic and foreign travel in fulfillment of inservice education requirements. Many school systems also grant leaves of absence for such purposes (38). Travel is difficult to evaluate for inservice credit, but it gives values not easily obtained otherwise (45). Obviously it is costly and school systems cannot require it, but they can recognize it by allowing inservice credit for it if the teacher asks for such credit and reports adequately on his trip. The NEA Travel Service conducts tours planned to give educational, recreational, and social experiences in regions or countries visited.

Camping

Camping is gaining recognition, especially for teachers of health, crafts, nature study, and conservation. With a camp as a center of activities, teachers can make a series of field trips to see activities in places that might otherwise be inaccessible. State and federal government agencies working in conservation, agriculture, and mining can often help to make camping experiences valuable.

The informality and isolation of camp life lend themselves to short workshops and conferences whose success depends partly on the rapid establishment of a friendly, cooperative atmosphere. For a potentially congenial group to share both recreation and wo. t hastens the establishment of good working re..ationships.

Another type of camp experience is that of teachers and students both attending a camp. This may be considered as a workshop for teachers and credit may be given in addition to monetary compensation for the work they do.

Work Experience

Quite apart from any need to earn additional money, teachers may find work experience in lines related to their teaching helpful in improving their teaching. A shop teacher, for example, may keep up with the tools and methods of his trade by working where up-to-date methods are used. He can bring what he finds directly to his teaching. The English teacher who engages in editorial or clerical work, the social studies teacher who engages in research in labor relations, or the science teacher who works in a commercial laboratory will come back to the classroom with a fresh outlook on teaching.

Teacher Exchanges

Any professional experience that takes a teacher out of his environment may be valuable. He gets a new view of himself and his possibilities, and comes in contact with people whose background and situation in life are different from his own. Teacher exchanges are arranged, where regulations permit, not only between different schools in the same system but with other systems in the state, in other states, or in foreign countries. Exchanges with foreign countries are considered important enough to our welfare for the federal government to assist in making arrangements--U.S. Department of State (52) and the U.S. Office of Education.

Teacher exchanges present problems of salaries, leave, insurance, and retirement benefits, but it is possible to overcome these obstacles. The benefit to the school system is twofold: The teacher from outside brings different experiences with him to share with his hosts, and the teacher who goes away brings back new ideas. In each case the school system learns new ways of doing things and learns them in a practical way through direct experience.

Research

Research is essential to the improvement of education. Tremendous amounts of research are needed to answer the many questions on how best to teach and how best to organize and administer the schools.

Various research techniques and methods may be used. Since inservice education is often voluntary, individual teachers may carry on research in their own classroom. Groups of teachers may try experiments, make observations, and conduct surveys. Carefully planned research should at least have the credit for inservice work that is given to other forms of study--professional courses, workshops, and committee work on such problems as curriculum revision. When a study is completed with careful observation, interpretation, and generalization, it is of value not only to those who conduct the project but also to the profession as a whole.

Professional Writing

Course work, individual study, and group work of various kinds may produce materials suitable for publication. Notes for teaching may form the basis of a textbook. The teacher's experience with pupils and his specialized knowledge can serve as a basis for professional writing. Professional writing, like research, serves the profession and the individual teacher who gives form and substance to his ideas on many topics. Teachers should get inservice credit commensurate with the effort involved.

Professional Association Work

Participation in the activities of teachers' professional organizations contributes to both personal and professional improvement. The activities of professional organizations are so varied that the teachers have many valuable experiences that help to make them better teachers and give them a broader understanding of the profession. They not only help themselves, but they may also help others as they work on ways of providing inservice education for teachers or report on their experiences to members of the organization. The contact with other teachers whose interest in the profession is great enough to cause them voluntarily to spend much time on professional problems is valuable and should be encouraged.

Cultural Experiences

Cultural experiences, such as lectures, concerts, plays, and operas, contribute to the aim of producing effective teachers. They enrich the teacher's life and his teaching.

Community Organization Work

Teachers need the knowledge and understanding of local community problems that may be obtained through work in community organizations. Here teachers work with other citizens in the study and solution of problems that require group action.

Barriers to Inservice Education

Except for basic preparation needed by the teacher and activities needed because of problems affecting the whole school, the teacher should be free to accept or reject any proposed plan of inservice education. The teacher should be willing to take part and recognize the usefulness of inservice programs. However, a teacher may have compelling reasons for avoiding such commitments.

The time required for inservice education programs is an important consideration. The average teacher's work week is a long one, 47.3 hours.13/ That is the time needed for classroom teaching and all related duties, including extracurricular activities. This is 18 percent above the 40-hour week which is the typical requirement for nonteaching white-collar employees of school boards, and generally of employees in business, industry, and other governmental agencies. Inservice education programs should neither deprive the pupils of time that should be spent on them directly nor overload the teacher.

School systems have lightened the teaching load as a device to provide time for inservice education. In a departmentalized school, the teacher may have fewer classes so that he may spend several hours a week on inservice education work. In the self-contained classroom, the teacher may be relieved of other assignments. It is also possible to shorten the school day or combine classes to give teachers time for inservice programs.

Some school systems are lengthening the period of employment of teachers to make inservice education possible. Extra days or weeks may be added to the school year with pay for the additional time. School systems sometimes require teachers to report for duty one day or more before the opening of school.

Several school systems have established year-round employment of teachers, called the career-teacher plan. Under this plan teachers work 11 months and have one month of vacation with pay. They spend one summer in four on the school campus, the other three being devoted to study at a college or university, travel, or other activity. The summer session is considered a custom-made inservice education

13/ National Education Association, Research Division. The American Public-School Teacher, 1960-61. Research Monograph 1963-M2. Washington, D.C.: the Association, April 1963. p. 53-54.

program. The teacher takes part in workshops, orientation work, field trips, special projects, and kindergarten roundup (53).

Many school systems grant leaves of absence to teachers for professional reasons. Such leave might be for the following reasons: professional study, professional meetings, exchange teaching abroad, professional organization work, visiting other schools, sabbatical, professional organization service, teaching in Department of Defense schools, research, travel, exchange teaching in the United States, and work experience.

The cost of inservice education is an important factor in the teacher's thinking. For 1965-66, the average salary of classroom teachers in all operating systems has been estimated to be $6,506.[14/] The teacher may feel financial pressure if he is required to spend time and money for inservice education unless he receives compensation for it, especially as such training is usually not required to keep one's position and receive regular salary increases in other professions.

The 1965-66 NEA Research Division survey of salaries for classroom teachers[15/] disclosed that nearly one-third of the school systems enrolling 6,000 or more pupils require teachers to show evidence of professional growth in order to earn regular salary increments. Such a requirement applies to moving vertically on the salary scale; it does not refer to moving horizontally to a higher training classification. Salary schedules usually provide additional pay for additional preparation. A convenient yardstick would be that the compensation for required work should be large enough so that the teacher will not suffer financially for having participated in an inservice education program.

The attitude of personnel toward inservice education may create a barrier to the success of a program. Indifference, negativism, resistance, lack of interest, complacency, or inertia have been identified as factors which sometimes limit efforts at growth through inservice techniques (5:354).

The inservice education program presents special difficulties in rural areas. The majority of "emergency" teachers are in rural areas. The rural teacher often lacks the materials, equipment, or supervision available to the urban teacher. Because of the distances that must be traveled, it is often difficult for rural teachers to attend extension courses, workshops, and similar activities commonly scheduled in urban communities.

State departments of public instruction, together with colleges, universities, and county supervisors, are now offering aids to inservice education for rural teachers. These aids might be county teachers institutes, special summer workshops, consultative services, publishing and distributing materials, extension courses, or demonstration classes. These agencies often supply financial aid to rural areas (34:18). Beery and Murfin (5) discuss these and other barriers to inservice education, and suggest ways of surmounting them.

The inservice education of teachers includes all formal and informal activities that aid the teacher in discharging his responsibilities. Inservice education should not invariably consist of summer school or university courses; many other activities may contribute to personal and professional improvement. The more varied the possibilities open to the teacher, the more likely it is that he will be attracted by some of them and find activities that suit his particular needs. To individualize the inservice education of teachers may be just as important as to individualize the teaching of children. (7:28)

Studies of Inservice Education Practices

In 1955-56 and again in 1961-62, the NEA Research Division studied personnel procedures in urban school systems. Table 1 shows the number and percent of the school systems which reported special opportunities for inservice education and professional growth of teachers. Curriculum committees, workshops during the regular school year, and summer workshops showed the largest gain, 24, 21, and 18 percentage points, respectively.

Similar surveys in 1940-41[16/] and 1950-51[17/] listed some of the same practices. Workshops again showed striking gains from one survey to the next. The increases were from 11 percent of the school systems reporting in 1940-41 to 30 percent reporting summer workshops and

14/ National Education Association, Research Division. Estimates of School Statistics, 1965-66, p. 30.

15/ National Education Association, Research Division. Salary Schedules for Classroom Teachers, 1965-66. Research Report 1965-R15. Washington, D.C.: the Association, October 1965. 128 p.

16/ National Education Association, Research Division. "Teacher Personnel Procedures: Employment Conditions in Service." Research Bulletin 20: 83-116; May 1942. "Development of Personnel in Service," p. 92-95.

17/ National Education Association, Research Division. "Teacher Personnel Procedures, 1950-51; Employment Conditions in Service." Research Bulletin 30: 45; April 1952.

TABLE 1.--OPPORTUNITIES FOR PROFESSIONAL GROWTH OF TEACHERS IN SERVICE, URBAN SCHOOL DISTRICTS

Type of opportunity provided	1955-56		1961-62	
	Number of districts	Percent	Number of districts	Percent
1	2	3	4	5
University extension courses	1,120	57%	761	62%
Curriculum committees	1,211	61	1,044	85
Lectures on educational subjects	852	43	630	51
Special courses in nearby colleges	923	47	661	54
Workshops during regular school year	1,148	58	970	79
Committees, other than curriculum	811	41	608	50
Workshops during the summer	436	22	491	40
Other opportunities	79	4	65	5
Total reporting one or more types of opportunities	1,856	94	1,193	97

Sources:
National Education Association, Research Division. Teacher Personnel Practices, Urban School Districts, 1955-56. Special Memo. Washington, D.C.: the Association, June 1956. Table 40, p. 25.
National Education Association, Research Division. Personnel Administration in Urban School Districts, 1961-62. Research Report 1963-R13. Washington, D.C.: the Association, December 1963. Table 46, p. 39.

47 percent reporting workshops during the regular school year in 1950-51.

Table 2 lists types of educative experiences that teachers may submit in fulfillment of professional growth requirements. The data are based on those large school systems (6,000 or more enrollment) which require evidence of professional growth for regular salary increments (39). All reporting systems accept college courses for credit. The additional activities accepted as fulfilling professional growth requirements are listed by rank. "Other" includes college teaching, first-aid courses, and exchange teaching in a foreign country.

In a questionnaire survey of 218 inservice teachers, Taylor (48) studied their plans for further preparation. Nearly 75 percent of this group intended to pursue formal college work. Slightly more than 55 percent had plans to obtain a master's degree. The inservice teachers listed classroom control and student motivation as their most important problems.

Taylor (49) also surveyed 100 high schools in Indiana to determine the types of activities used in inservice education programs. He reported the following:

1. A one-week orientation period before the opening of school and a two-week summer workshop, with pay
2. A professional library
3. Regularly scheduled faculty meetings, often during school hours
4. Salary schedules more closely related to teacher growth
5. Teachers' committees on curriculum development making community surveys
6. Faculty committees studying school problems
7. Teachers visiting classes of other teachers
8. Special induction programs for new teachers
9. Small study groups working on the curriculum

10. A few schools providing sabbatical leave for study, travel, or health.

School Board Data (3) surveyed 201 school systems to determine the cost of inservice education programs. Amounts budgeted for inservice education per teacher ranged from $.73 to $79.00. Items purchased included fees for professional speakers, subscriptions to professional journals, professional books, and travel to professional meetings.

School systems often promote professional growth activities by granting the teacher time off from his regular teaching duties. Table 3 shows the percent of school systems (300 or more enrollment) which grant leaves of absence for professional reasons. An equitable, well-administered plan for granting professional leaves of absence may contribute much to profesional growth activities.

In its survey of Current Practices in Inservice Education (35), the National Commission on Teacher Education and Professional Standards, NEA, reported a descriptive list of 292 inservice programs. The TEPS Commission summarized the general trends and practices of inservice programs as follows:

1. School systems are providing more released time during the school day for inservice education activities.
2. Compensation is given for time contributed by the teachers outside the regular school day, week, or year.
3. The number of days teachers are employed is being extended, with the additional days being devoted to inservice education.
4. Greater use is being made of the professional staff within a school system, with requests for outside consultant services limited to special needs.
5. The non-college-credit programs are conducted by personnel of the school system.
6. Extended or comprehensive inservice programs usually have some financial support from outside sources. Increasing financial responsibility for inservice education is being recognized by the school system.
7. Nearly all programs have subjective evaluations which include questionnaires, reaction sheets, or verbal comments by the participants and directors, but well-organized statistical evaluations are evident in only a few instances.
8. The expected participants or their representatives are usually involved in planning a program from its initiation through evaluation (35:vi).

Evaluation

One important element of a good inservice program is appraisal and evaluation of the inservice activities and the goals of the program. A growing realization of the problems and importance of the manifold aspects of inservice education is reflected in recent evaluations of inservice activities. These activities are evaluated not only to assign credit for work done, but also as a means to bring about a real improvement in the instructional processes.

The California Teachers Association (12) studied the inservice education programs of California school districts and found that the benefits most commonly mentioned as accruing from the programs, in order of frequency, were:

1. Faculty unity and teamwork
2. Improvement of procedures, techniques, and methods
3. Stimulation of professional growth
4. Curriculum development and improvement.

The Association found that the problems frequently mentioned were:

1. Lack of time for the program
2. Lack of teacher interest and participation
3. Lack of teacher stamina
4. Budgetary limitations.

Applegate (2) surveyed inservice programs in Minnesota. Through the use of a stratified random sample, she found that over 60 percent of the school systems had workshops in 1955, and 75 percent expected to have them in 1956. Despite these findings on the increasing use of workshops, the teachers did not rate them highly. Teachers surveyed by Daines (15) indicated that the workshop was their preferred method of inservice education.

Brandt and Perkins (8) reported that teachers' participation in child-study programs at the University of Maryland's Institute of Child Study did not affect their pupils' reading and arithmetic achievement. The study did report that as a result of the inservice training, teachers reacted more positively in working with children and utilized more democratic classroom organization.

TABLE 2.--ACTIVITIES ACCEPTED AS FULFILLING PROFESSIONAL GROWTH REQUIREMENTS FOR ADVANCEMENT ON SALARY SCHEDULES IN 307 REPORTING SCHOOL SYSTEMS, 1965-66

Professional growth activity	Total		School systems by enrollment grouping					
			25,000 or more		12,000-24,999		6,000-11,999	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1	2	3	4	5	6	7	8	9
College courses	307	100.0%	46	100.0%	79	100.0%	182	100.0%
Workshops or inservice training sponsored by school systems	251	81.8	37	80.4	64	81.0	150	82.4
Travel	205	66.8	32	69.6	55	69.6	118	64.8
Noncredit courses or institutes not sponsored by school systems	137	44.6	20	43.5	34	43.0	83	45.6
Research	107	34.9	21	45.7	27	34.2	59	32.4
School committee	101	32.9	17	37.0	26	32.9	58	31.9
Professional writing	89	29.0	18	39.1	18	22.8	53	29.1
Attendance at professional meetings	67	21.8	12	26.1	14	17.7	41	22.5
Supervision of student teaching	45	14.7	6	13.0	9	11.4	30	16.5
Holding office in professional association	42	13.7	7	15.2	8	10.1	27	14.8
Committee work in professional association	35	11.4	6	13.0	8	10.1	21	11.5
Community projects	29	9.4	8	17.4	6	7.6	15	8.2
Work experience	12	3.9	4	8.7	3	3.8	5	2.7
Other	20	6.5	2	4.3	3	3.8	15	8.2

Source:
National Education Association, Research Division. Professional Growth Requirements, 1965-66. Research Report 1966-R11. Washington, D.C.: the Association, July 1966. p. 7.

In 1964, Izzo and Izzo (26) evaluated an inservice program in mathematics. A summer institute was conducted for 31 elementary-school mathematics teachers. These teachers returned to their local school systems and conducted courses in background mathematics for the teachers in their own system. The teachers in each system reacted favorably to the program which had a fellow colleague return to the local system to share with them the knowledge gained at the summer institute. School officials were enthusiastic about the total program.

During the 1963-64 school year, Brown (10) studied an inservice program which involved 75 arithmetic teachers from five elementary schools. The inservice program concerned preparing the teachers to use a new state-adopted textbook. The approach provided consultant help and opportunity for interaction and discussion by inservice teachers, consultants, and district curriculum leaders. The evaluative instrument was a questionnaire distributed at the end of the program. The study suggests that planning a follow-up inservice project would help teachers achieve a desirable level of competence in subject knowledge.

Ruddell and Brown (44) studied the effect that three different programs of inservice leadership had on teachers and pupils. Group A

met with a consultant for six hours one day during an orientation session. Group B attended 10 meetings at evenly spaced intervals during the school year. Unlike the teachers in Group B who participated directly, the teachers in Group C were served by an intermediary at each of the 10 meetings. The intermediary was to report back to the teachers whom they were representing at the meetings. Interpretation of test results led the authors to the following conclusions: (a) Direct contact between teacher and consultant is necessary to bring about changes in mathematics knowledge and understanding. (b) A teacher's mathematics knowledge and understanding can be changed as much from an intense program as from a slowly paced one. (c) Pupil achievement gains were higher in those classes where a teacher participated directly over an entire school year. (d) The use of an intermediary is only mildly effective.

In 1960, Fowler (22) described a summer institute for elementary-school science teachers. This institute was supported by the National Science Foundation. Tests, selected and administered prior to and following the program, measured a significant increase in science achievement.

In their study of inservice education for elementary-school science teachers, Brittain and Sparks (9) used self-report data to measure the effectiveness of the television course. The teachers completing the course took, as pre-tests and post-tests, the Read General Science Test and the Facts About Science Test. In addition, a sample of teachers reported on the seriousness of the problems encountered in teaching science. While the predominant trend was in reporting their problems as less serious, a number of upper-grade elementary-school teachers reported these problems as more serious at the end of the course. The science inservice program was evaluated as effective in its contribution to the teaching competency of the enrolled teachers.

TABLE 3.--PERCENT OF SCHOOL SYSTEMS GRANTING LEAVES OF ABSENCE FOR PROFESSIONAL REASONS, 1965-66

Reason	Group A 25,000 or more enrollment	Group B 3,000-24,999 enrollment	Group C 300-2,999 enrollment	National weighted distribution, all operating systems with 300 or more enrollment
1	2	3	4	5
Professional study	85.8%	60.5%	31.6%	38.7%
Professional meetings	87.8	95.6	94.2	94.4
Exchange teaching abroad	81.8	50.0	22.0	28.9
Professional organization work	70.9	92.5	90.4	90.6
Visiting other schools	68.2	92.2	88.6	89.2
Paid sabbatical	56.7	40.8	11.7	18.7
Professional organization service (extended leave)	60.8	32.7	21.6	24.6
Department of Defense school	57.4	36.7	20.6	17.1
Research	55.4	31.6	15.5	19.5
Travel	52.7	26.2	12.7	16.2
Exchange teaching in the United States	54.7	36.7	20.6	24.6
Work experience	16.9	11.6	6.5	7.8
Number of systems	148	294	291	12,130

Source:
National Education Association, Research Division. Teacher Leaves of Absence, Local Practices, 1965-66. (In process).

Houston, Boyd, and DeVault (25) evaluated an inservice mathematics program for intermediate-grade teachers. They carried out five weekly one-and-one-half-hour sessions on content and method by using television, lectures, discussion periods, and individually written topic reports. A significant proportion of the teachers reacted positively to the program, and 74 percent used the materials covered in the sessions in their own classrooms. This utilization of training materials was the primary method of evaluation.

Bowers and Soar (6) completed a project in human relations training involving 54 elementary-school teachers, 25 in an experimental group and 29 in a control group. The objective of the inservice training was to help teachers achieve their own preferred degree of democratic classroom management. The Medley and Metzel OSCAR observation of classroom interaction and the testing of pupils by the Russel Sage Social Relation Test were used as measures of the inservice objectives. In general, teachers whose personality measures initially were correlated with more effective classroom practices gained most from the inservice program.

Flanders and others (21) studied inservice education to evaluate the program in terms of changes in the spontaneous behavior of teachers, and in terms of any increase in pupil participation as a result of teacher behavior. Fifty-one teachers were observed to obtain a before-training assessment of their patterns of verbal influence. These same teachers then participated in a nine-week inservice training program. The 51 teachers were divided into two groups. One group was exposed to a pattern of instructor behavior which stimulated verbal participation, while the other group was exposed to a lecture-discussion method of instruction. A control group of 12 additional teachers experienced no inservice training. The study showed that consistency between a teacher's preferred style and the style of the inservice program will influence the progress of the teacher. In general, those teachers who were most active in training made changes that were consistent with the objectives of the program.

There is no one best method of evaluating inservice training or of granting credit for such training. Many evaluative techniques are utilized: questionnaires, self-reports, observation. It is important, however, that the idea of credit does not take precedence over the desire for professional improvement.

Improving Inservice Education

Philpot (41) described several innovations which may improve inservice education: (a) classroom teachers, after learning how, in a workshop, presenting educational television programs; (b) teacher demonstration by closed-circuit television; (c) a teacher's Help-mobile; (d) the special music teacher acting as consultant to elementary-school teachers learning how to play simple tunes on a piano; (e) a "Here's How I Do It" workshop; (f) special inservice training for probationary teachers; (g) a workshop opened to the public with recruitment as a secondary objective; and (h) periodic audio-visual workshops.

The Dictionary of Innovation in Teacher Education (37) lists 323 separate programs designed to improve teacher education. Thirty-seven of these programs are for inservice education. These programs were designed to meet the following needs: to help teachers with substandard certificates, to prepare supervising teachers, and to encourage development of subject-matter specialists (i.e., mathematics, science, modern languages and linguistics, vocational education, and other fields).

The National Commission on Teacher Education and Professional Standards, NEA, has suggested ways of improving inservice education. The suggestions are propositions or descriptions of objectives or conditions to be attained, rather than the status quo. The TEPS Commission advocates the following goals and axioms:

- Continuing education is a career-long process of professional growth.
- The primary responsibility for continuing development rests with the individual teacher.
- Continuing education is planned on an individual basis.
- Professional growth is achieved in a variety of ways, including but not limited to formal study.
- Conditions in the school and community encourage rather than inhibit professional growth.
- Careful planning provides continuity between earlier preparation and continuing education; differences in purpose and emphasis in preservice and inservice programs are clear.
- Salary schedules, recognition, and status encourage teachers to make the classroom their career.[18]

18/ National Education Association, National Commission on Teacher Education and Professional Standards. A Position Paper. Washington, D.C.: the Commission, 1963. p. 17.

Summary

In this study of inservice education programs for teachers, three patterns seem to emerge with respect to research. This change in research perspective has been growing over a period of time. Literature on inservice education was, at first, largely opinion and recommendation on forms and problems. The general trend, then, was toward a growing emphasis on teacher needs and toward a growing realization that inservice education could serve many purposes other than subject-matter orientation. Recent research illustrates the trend toward actual experimentation, and evaluation of inservice programs.

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